

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A [C]onductor crossover for a semiconductor detector that is capable of being used with in particular for a drift detector for X-ray spectroscopy, having comprising:

- at least two doped semiconductor electrodes (2) situated in a semiconductor substrate (1),
- at least one connecting conductor (M) guided over the semiconductor electrodes (M), and
- a first insulation layer (Ox), ~~characterized in that~~ wherein between the connecting conductor (M) and the first insulation layer (Ox) an intermediate electrode (L, L2) is situated which covers the region of the semiconductor substrate (1) between the semiconductor electrodes (2) and which is electrically insulated from the connecting conductor (M) by at least one additional insulation layer (I).

2. (Currently Amended) The [C]onductor crossover according to Claim 1, ~~characterized in that~~ wherein the intermediate electrode (L) is electrically connected to at least one of the semiconductor electrodes (2) and has the same electrical potential as said semiconductor electrode.

3. (Currently Amended) The [C]conductor crossover according to Claim 2, in which the connection between the intermediate electrode (L) and the semiconductor electrode (2) is formed by a polysilicon-silicon crossover.

4. (Currently Amended) The [C]conductor crossover according to Claim 1, characterized in that wherein the intermediate electrode (L, L2) is connected to an external power source in order to set its electrical potential.

5. (Currently Amended) The [C]conductor crossover according to one at least one of the preceding claims, characterized in that of Claims 1-4, wherein the conductor crossover has multiple levels containing a plurality of insulated intermediate electrodes (L, L2) are situated, one above the other, between the connecting conductor (M) and the semiconductor substrate (1).

6. (Currently Amended) The [C]conductor crossover according to at least one of the preceding claims, characterized in that for contacting the semiconductor electrodes (2) and/or an amplification element one of Claims 1-4, comprising at least one additional connecting conductor is provided, which is guided over adjoining semiconductor electrodes, for contacting the semiconductor electrodes (2).

7. (Currently Amended) The [C]conductor crossover according to at least one of the preceding claims characterized in that one of Claims 1-4, wherein the semiconductor electrodes (2) are p-doped, whereas and the semiconductor substrate (1) and/or the readout electrode (A) are is n-doped.

8. (Currently Amended) The [C]conductor crossover according to ~~at least one of the claims 1-6, characterized in that~~ one of Claims 1-4, wherein the semiconductor electrodes (2) are n-doped, ~~whereas~~ and the semiconductor substrate (1) is p-doped.

9. (Currently Amended) The [C]conductor crossover according to ~~at least one of the preceding claims, characterized in that~~ one of Claims 1-4, wherein the semiconductor substrate (1), the semiconductor electrodes (2), and/or the substrate electrode (S) is made essentially from one of the group consisting of silicon, ~~in particular polysilicon, or germanium or~~ and gallium-arsenide.

10. (Currently Amended) The [C]conductor crossover according to ~~at least one of the preceding claims, characterized in that~~ one of Claims 1-4, wherein the connecting conductor (M) is guided over the semiconductor electrodes (2) which have an annular topology.

11. (Currently Amended) The [C]conductor crossover according to Claim 10, ~~characterized in that~~ wherein the connecting conductor (M) is guided over multiple semiconductor electrodes (2) which mutually surround one another.

12. (Currently Amended) The [C]conductor crossover according to ~~at least one of the preceding claims characterized in that~~ one of Claims 1-4, wherein the at least one connecting conductor is guided over multiple adjoining drift detectors.

13. (Currently Amended) A [D]drift detector for X-ray spectroscopy ~~which is provided with having~~ at least one conductor crossover according to ~~at least one of the preceding claims~~ Claims 1-4.

14. (Currently Amended) A [D]detector assembly for X-ray spectroscopy, comprising multiple drift detectors and having at least one conductor crossover according to ~~at least one of the preceding claims 1 through 12~~ Claims 1-4, which is guided over at least two of the multiple drift detectors.

15. (New) The conductor crossover according to one of Claims 1-4, comprising at least one additional connecting conductor, which is guided over adjoining semiconductor electrodes, for contacting an amplification element.

16. (New) The conductor crossover according to one of Claims 1-4, additionally comprising a readout electrode, wherein the semiconductor electrodes are p-doped and the readout electrode is n-doped.

17. (New) The conductor crossover according to one of Claims 1-4, wherein the semiconductor electrodes are made essentially from at least one of the group consisting of silicon, polysilicon, germanium and gallium-arsenide.

18. (New) The conductor crossover according to one of Claims 1-4, additionally comprising a substrate electrode, wherein the substrate electrode is made essentially from at least one of the group consisting of silicon, polysilicon, germanium and gallium-arsenide.